CLAIMS

What is Claimed Is:

1. A path setting device to secure bandwidth for multiple paths to provide a service from a service provider to a subscriber, comprising:

means for determining whether a received message is a request message for a first path, the request message including requested bandwidth information for a plurality of paths set for the service required by the subscriber; and

means for securing a bandwidth based on the requested bandwidth information set in the request message for the first path between the service provider and the subscriber in response to receiving the request message for the first path.

2. A path setting device as recited in claim 1, further comprising:

means for calculating a bandwidth required for all paths set to provide the service for a subscriber based on the requested bandwidth information set in the request message for the first path from the subscriber;

means for comparing the calculated bandwidth to an available bandwidth between the service provider and the subscriber;

means for securing the calculated bandwidth if the calculated bandwidth is less than or equal to the available bandwidth;

means for setting the first path between the service provider and the subscriber in response to the request message for the first path; and

means for notifying that it is impossible to set a path to the subscriber if the calculated bandwidth is larger than the available bandwidth.

3. A path setting device as recited in claim 1, further comprising:

means for determining whether the received message is a following request message for a remaining path in which information identifying the request message for the first path is set; and

means for setting the remaining path between the service provider and the subscriber in response to the following request message for the remaining path.

4. A path setting device as recited in claim 3, wherein the information identifying the request message is a call number.

5. A switching system as recited in claim 2, further comprising

means for determining whether the received message is a following request message for a remaining path in which information identifying the request message for the first path is set; and

means for setting the remaining path between the service provider and the subscriber in response to the following request message for the remaining path.

6. A path setting device as recited in claim 5, wherein the information identifying the request message is a call number.

7. A path setting control method of securing bandwidth for multiple paths to provide a service from a service provider to a subscriber via a switching system, comprising:

sending a request message for a first path from the subscriber to the switching system, the request message including requested bandwidth information for setting each of the multiple paths to provide the service for a subscriber; and

securing a bandwidth based on the requested bandwidth information in the request message for the first path between the service provider and the subscriber when the request message for the first path is received at the switching system.

8. A path setting control method as recited in claim 7, further comprising:

setting the first path in response to the request message for the first path between the service provider and the subscriber; and

setting a remaining path in response to the following request message for the remaining path between the service provider and the subscriber.

9. A switching system for setting multiple paths for a service provided from a service provider to a subscriber, comprising:

an extraction device to extract messages from a subscriber;

a message determination device to determine whether the message extracted by the message extraction device is a request message for a first path between the service provider and the subscriber; and

a bandwidth securing and processing device to secure a bandwidth based on requested bandwidth information set in the request message in response to receiving the request message for the first path.

10. A switching system as recited in claim 9, further comprising:

a presumed bandwidth calculating device to calculate a presumed bandwidth for each respective path based on the requested bandwidth information set in the request message, and to calculate a total presumed bandwidth based on the presumed bandwidths.

11. A switching system as recited in claim 9, wherein said bandwidth securing and processing device compares the bandwidth to the available bandwidth, and secures the bandwidth when the bandwidth is less than or equal to the available bandwidth.

12. A switching system as recited in claim 10, wherein said bandwidth securing and processing device compares the total presumed bandwidth to the available bandwidth, and secures the total presumed bandwidth when the total presumed bandwidth is less than or equal to the available bandwidth.

Sub B4 13. A path setting device to secure bandwidth to provide a service from a service provider to a subscriber, comprising:

means for determining whether a received message is a request message;

means for determining whether a number of request messages received from the same subscriber reaches a number of paths set in the request message for the first path;

means for securing a bandwidth required for all paths set to provide the service for the subscriber between the service provider and the subscriber when the number of request messages received from the same subscriber reaches the number of paths set in the request message for the first path.

14. A path setting control method of securing bandwidth for multiple paths to provide a service from a service provider to a subscriber via a switching system, comprising:

sending a request message for a first path from the subscriber to the switching system, in which a number of paths required to provide the service for a subscriber is set;

sending as many request messages as the number of paths successively from the subscriber to the switching system;

securing the bandwidth required for all paths set to provide the service for a subscriber between the service provider and the subscriber when a number of request messages reaches the number of paths set in the request message for the first path.

15. A service provider to provide a service by using multiple paths to a subscriber via a switching system, comprising;

means for receiving a request message for a first path from the subscriber via the switching system;

means for securing a bandwidth of all the multiple paths required to provide the service for a subscriber in response to receiving the request message for the first path;

means for sending a connection message to the switching system in response to receiving the request message for the first path after securing the bandwidth; and

means for sending the connection message to the switching system in response to receiving a following request message for another path from the subscriber.

16. A path setting control method of setting multiple paths for a service provided from service provider to a subscriber via a switching system, comprising:

sending a request message from the subscriber to the switching system to set in order of large bandwidth to small bandwidth the various bandwidth which correspond to multiple paths required to provide the service; and

securing the bandwidth required between the service provider and the subscriber in order of large bandwidth to small bandwidth in response to the request message.

17. A subscriber terminal in a network which is provided a service via a switching system using multiple paths from a service provider, comprising:

a path selecting device to select an unconnected path having a bandwidth which is largest among paths to provide a requested service;

a message transmitting device to transmit a request message to set the path selected by said path selecting device to the switching system; and

a received message processing device to determine whether there are any paths which have to be set, and to instruct the path selecting device to select the path having the largest bandwidth among the remaining paths to provide the service when there is any path which has to be set.

18. A system to allocate bandwidth of requested resources, comprising:

a controller to simultaneously secure a bandwidth for all paths required to provide requested resources.

19. A method of allocating bandwidth of requested resources, comprising:

simultaneously securing a bandwidth for all paths required to provide requested resources.